

What Is Claimed Is:

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1. Apparatus for securing a flexible filament,  
said apparatus comprising:

a bone fixation element having a distal end and a proximal end, a central bore extending between said distal end and said proximal end, and a threaded counterbore opening on said proximal end and terminating short of said distal end, said central bore having a first diameter large enough to receive the flexible filament therethrough, said threaded counterbore having a second larger diameter; and

a threaded collet having a distal end and a proximal end, said distal end comprising a leading tapered section and said proximal end comprising a trailing threaded section, a collet bore extending between said distal end and said proximal end, said collet bore at said leading tapered section having an initial diameter, and said leading tapered section

having a slit formed therein for selectively reducing  
said initial diameter of said collet bore,

wherein screwing said trailing threaded section  
of said threaded collet into said threaded counterbore  
of said bone fixation element forces said leading  
5 tapered section of said threaded collet radially  
inwardly so as to reduce said initial diameter of said  
collet bore, whereby to clamp the flexible filament to  
said threaded collet and, in turn, to said bone  
fixation element.

2. Apparatus for reconstructing a ligament,  
said apparatus comprising:

a bone fixation element having a distal end and a  
proximal end, and a central bore extending between  
said distal end and said proximal end, said central  
bore having a first diameter, and said bone fixation  
element being adapted for positioning in a bone  
tunnel;

a flexible filament having a distal end and a  
proximal end, said distal end having retaining means

for holding a graft ligament, and said flexible filament having a second diameter smaller than said first diameter so as to allow said flexible filament to slidably pass through said central bore of said bone fixation element, whereby said flexible filament holding the graft ligament in the bone tunnel is slideably positionable through said central bore of said bone fixation element; and

a crimp having retaining means for attachment to said flexible filament, said crimp having a third diameter, said third diameter being greater than said first diameter, whereby said crimp is fixedly positionable to said flexible filament adjacent to said proximal end of said bone fixation element so as to prevent distal movement of said flexible filament relative to said bone fixation element and hence prevent distal movement of said graft ligament in the bone tunnel.

3. A method for securing a flexible filament, said method comprising:

providing apparatus for securing a flexible filament, said apparatus comprising:

5 a bone fixation element having a distal end and a proximal end, a central bore extending between said distal end and said proximal end, and a threaded counterbore opening on said proximal end and terminating short of said distal end, said central bore having a first diameter large enough to receive the flexible filament therethrough, said threaded counterbore having a second larger diameter; and

10 a threaded collet having a distal end and a proximal end, said distal end comprising a leading tapered section and said proximal end comprising a trailing threaded section, a collet bore extending between said distal end and said proximal end, said collet bore at said leading tapered section having an initial diameter, and said leading tapered section having a slit formed therein for selectively reducing said initial diameter of said collet bore,

15 wherein screwing said trailing threaded section of said threaded collet into said threaded

counterbore of said bone fixation element forces said  
leading tapered section of said threaded collet  
radially inwardly so as to reduce said initial  
diameter of said collet bore, whereby to clamp the  
flexible filament to said threaded collet and, in  
turn, to said bone fixation element;

positioning a flexible filament through said  
central bore of said bone fixation element, and  
positioning said bone fixation element in a first bone  
tunnel portion, and positioning a graft ligament in a  
second bone tunnel portion by drawing the flexible  
filament through said bone fixation element; and

screwing said threaded collet into said bone  
fixation element so as to clamp the flexible filament  
to said collet and hence to said bone fixation  
element.

4. A method for reconstructing a ligament, said  
method comprises:

providing apparatus for reconstructing a  
ligament, said apparatus comprising:

a bone fixation element having a distal end  
and a proximal end, and a central bore extending  
between said distal end and said proximal end, said  
central bore having a first diameter, and said bone  
fixation element being adapted for positioning in a  
bone tunnel;

a flexible filament having a distal end and  
a proximal end, said distal end having retaining means  
for holding a graft ligament, and said flexible  
filament having a second diameter smaller than said  
first diameter so as to allow said flexible filament  
to slidably pass through said central bore of said  
bone fixation element, whereby said flexible filament  
holding the graft ligament in the bone tunnel is  
slideably positionable through said central bore of  
said bone fixation element; and

a crimp having retaining means for  
attachment to said flexible filament, said crimp  
having a third diameter, said third diameter being  
greater than said first diameter, whereby said crimp  
is fixedly positionable to said flexible filament

adjacent to said proximal end of said bone fixation  
element so as to prevent distal movement of said  
flexible filament relative to said bone fixation  
element and hence prevent distal movement of said  
graft ligament in the bone tunnel;

positioning said flexible filament through said  
central bore of said bone fixation element, and  
positioning said bone fixation element in a first bone  
tunnel portion, and positioning a graft ligament in a  
second bone tunnel portion by drawing said flexible  
filament through said bone fixation element; and

attaching said clamp onto said flexible filament  
adjacent to said proximal end of said bone fixation  
element so as to prevent movement of said flexible  
filament toward said distal end of said bone fixation  
element.